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A

VINDICATION

OF

"OBJECT TEACHING."

BY

"SCOTIA."

Natural Objects, Artificial Objects, and Representative Objects, (the latter consisting of pictures, maps, diagrams, books, and their contents) are *all* valuable: but surely the thing which is represented, must be *more* valuable than that which represents it, and Natural Objects must be *most* valuable, since *Nature is the Mother of all True Art!*

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
1863.

OBJECT TEACHING.

PREFATORY ADDRESS.

To those who in their Excelsior March are far beyond this essayist, she would thus speak. In "Ever learning and never coming to the knowledge of the" *entire* "Truth" there must needs be produced much that is imperfect: but *they whose children are of the day, never look very unkindly on the child of twilight*, especially when the poor mother lifts her voice to the "Eternal Wisdom" and says—*Does not the earnestness with which I clothe myself in sombre rags, prove with what delight I shall wear those robes which will ever increase in their power to reflect light from the Divine Sun?*

Friendly criticism of J. L. Capen, Phrenologist.—'This article is redundant in one particular and defective in three: the former, because of its tediously lengthy illustrations in the form of contrasts, and the latter, because no direct mention is made of the *fact* that the study of objects and pictures relieves the mind from the fatigue attending an uninterrupted application to the instruction which is derived from

books; and that it invigorates it for fresh exertion: it ought also to remind the world that objects and pictures are esteemed *essential* in the colleges.'

Reply—Those who weary of the contrasts are requested to read a few and then pass on to the connection; and if any doubt the refreshing and strengthening nature of an education which is acquired from objects, pictures and books in conjunction, *let them try the effect* of the latter teaching, and compare it with that of the system to which they are accustomed. *It is true* that the little ones will not prove *quite so plastic*, but their resistant power will be most favorably exercised in their refusing to be *human parrots.* The writer contends that books, sentences, words, letters, and *even subjects of thought* are *all* objects: but as the world does not think so, she asks how long it means to present "Dull Abstractions" to children, while it teaches men and women thro' Objects, Pictures and Books? She affirms that it is "*No mistake* nor *waste of pains*, to improve" their "diet at no great expense, with wholesome grains of" most *un-"common sense.*"

OBJECT AND PICTURE TEACHING.

"What need is there for this constant study? You know far more than your little pupils are ready to receive from you, and besides, teaching thro' objects

and pictures will not be permanently useful to children, tho' it now makes them appear intelligent, for very soon they will forget it all, and I am told that those who teach in this way, neglect the more common and necessary parts of education, viz., spelling and arithmetic."

Such were the expressions of a *true* and *highly valued*, tho' not on this point "*Wide awake*" friend to a teacher who would thus reply to similar remarks.—

"However young his pupils may be, the successful teacher must *daily* find time to exercise his mind *in proportion to his own development*, else he must remain without those *fresh spectacles* that enable him unweariedly to take others over ground which he himself has passed.

You think that children exercised in this way will soon forget the education which they thus acquire, but this is impossible! If you tell your boy that you want sugar from the grocery, and that you wish him to get it for you, he will be unusually stupid, if he does not, without effort, associate quantity, quality and monetary remuneration with the fulfilment of your desire: and to a certain extent will it be thus with the student of objects and pictures, who will surely recollect something of what he has to look for in the larger grocery of which the smaller is but a *faint type*. He whose mind has been directed towards distinguishing what is natural from that which is

artificial; what is visible from that which is *in*visible; what is tangible from that which is *in*tangible; what is solid from that which is liquid, or fluid, or both, or *all*, either by turns or in different parts; what is transparent from that which is opaque, or intermediate; what is absorbent from that which is reflective; what is colored from that which is colorless; what is brittle, or friable from that which is malleable or tough; what is flexible, and perhaps pliable from that which is *in*flexible; what is plastic from that which is resistant; what is compress*ive* from that which is compress*ible;* what is ductile from that which is *in*ductile; what is elastic from that which is *in*elastic; what is buoyant from that which sinks; what is bright from that which is sparkling or dull; what is rough from that which is smooth; what is permanent from that which is volatile; what is solv*ent* from that which is solu*ble;* what is fusible from that which is *in*fusible; what is combustible from that which is *in*combustible; what is with difficulty ignited from that which is inflammable; what is dense from that which is acknowledged as porous, or interstitial; what is pervious from that which is *im*pervious; what is hard from that which is soft; what is heavy from that which is light; what is wet or moist from that which is dry; what is fibrous from that which is granulous, or laminated, or scaly, or vascular, or cellular; what is straight from that which is crooked, or curved, or waved, or spiral; what is circular from that which is

elliptical, or oval, or spindle-shaped, or crescent-formed, or semicircular, or triangular, or square, or rhomboidal, or pentagonal, or in any form *mult*-angular; or what is bounded by one line from that which is bounded by two or more; what is curved in its boundary, or boundaries, from that which is bounded by mixed or straight lines, or—to include all briefly—what is regular in its form from that which is amorphous or intermediate; what is without angles from that which has angles, either right, or acute, or obtuse, or mixed; what is plane from that which is relieved; what is horizontal in its position from that which is perpendicular or oblique; what is, with regard to other parts of the same thing, or to different things, parallel from that which is converging and diverging; what is spherical from that which is spheroidal, or hemispherical, or cylindrical or conical, or cubical, or otherwise, or—to be plainer still—what has one surface from that which has two or more faces; what is entire from that which is fractional; what is uniform from that which is varied; what is *con*centric from that which is *ec*centric; what is harmonious from that which is discordant; what is odorous from that which is *in*odorous; what is edible from that which is not edible; what is sapid from that which is *in*sipid; what is nutritious from that which is *in*nutritious; what is wholesome from that which is *un*wholesome; what is *really* invigorating from that which is only *temporarily* stimulating; what

is foreign from that which is indigenous; what is generic from that which is specific; what is essential from that which is accidental; what is universal from that which is partial; what is of acknowledged use from that of which the use is yet unseen; what is organic from that which is *in*organic; what is animate from that which is *in*animate; and who hears that there is a constant barter, '*an incessant attraction and repulsion between* EACH *and* ALL;' who learns either pictorially or objectively something of his own marvellous form; something of the wondrous structure and habits of those in whom *Instinct reigns;* who is exhorted to refuse to have his mental and moral states typified by the beasts and birds of night; who is warned to avoid the magpie's chatter and who hears that, in his search after Truth, there is nothing but the *absence of a sufficiently strong desire* which He who formed the human voice *will in His own time grant, if asked,* between him and the reception of *the eagle's eyes, the eagle's wings, and the eagle's* STRENGTH, PROVIDED that he seek them *not to destroy* OTHERS *but to overcome his* OWN *wrong things:* surely he may reach an eyry *in*accessible to those who do not *love to study;* surely he has a superiority over those whose powers have not been thus developed of which neither external circumstances nor blindness, nor thoughtlessness nor ill-nature in man can deprive him! Surely he is on the path that *all great men have trod, are treading* and *will tread:* for have they not *all* got

their knowledge, are they not *all* getting it, and *will they ever cease to gain it thro'* objects? Surely he is not the *least* likely *to begin* and *carry on the wrestling that is "not against flesh"* and *to* PREVAIL!

And has knowledge thus obtained *soon died, is it dying*, and *will it always die?* Sooner will every rock *rend* and each atom cry aloud "*Glory to God in the Highest*," for *even we live!* Sooner will five enormous Water-Spouts arise from Ocean's depths and thus proclaim her links with Heaven! Sooner will the air teem with meteoric bodies representing every *form* in the Universe of God and its *effect*, than will knowledge, acquired by creatures formed in His image, while studying the wonders either of nature or of art, be born ONLY *to die!*

And *does* the study of objects give distaste to what is called the more "Mechanical part of education?" Say rather that as soon as the world is ready to give *True Object Teaching* fair play, by encouraging it in proportion to its *real*, instead of its *nominal* worth, will "Mechanical Education" begin to disappear from the earth: for to the well developed mind, *everything of which he can form a conception becomes an object*, consequently, he *cannot* depreciate the value of any spoken, written, printed or otherwise illustrative form; and in every fresh search after Truth, the *very finiteness* of his nature *compels* him to remember the necessity of considering all that appertains to the visible creation, and much of what belongs to the

*in*visible in connection with Form, Bulk, Weight, Position, Quality and Number. The child is not confined to what he *sees*, for a lesson on *air* convinces him of the *In*visible. Thro' a lesson on the decomposition, reflection and absorption of the light which flows from the natural sun, his mind is directed to the spiritual light which flows from the Divine Sun, and thus he learns that others whose religious denomination differs from that of his parents, may also claim that they have some portion of the Heavenly light: because Truth is reflected or absorbed according to men's states, and its decomposition will depend on the *nature* and *condition* of what the late Rev'd. William Metcalfe called the "*Human Prism.*" Thro' the study of artificial light and the variety, not only in the objects thro' which it is produced, but in the means and speed exercised in obtaining it, may he not infer that there are also *spiritual lucifer matches*, *gas factories* and *gasometers*, and may he not be led to apply for the knowledge that will enable him to possess *all* to Him who altho' He says, "*Besides me there is no Saviour*," adds "*Covet earnestly the best gifts*," and "*Work out your own Salvation*"?

"SCOTIA."

PHILADELPHIA, 19th January, 1863.

APPENDIX.

Did *a book* teach men how to make *Paper and Movable Types?*

Did *a book* lead to the discovery of *the Magnet*, and its application in the form of the *Mariner's Compass?*

Did *a book*, or an *unknown floating weed*, convince Italy's Christopher Columbus (B. 1437; D. 1506.) of the existence of a *Western World?*

Did *a book* lead the Prussian born and Polish educated Copernicus (B. 1473; D. 1543.) to represent "*the Sun as occupying a centre, round which the earth and the other planets revolve*"?

Aye, did it, but *the book was boundless!*

Was it *mere parrotry* that led the Italian Galileo Galilei (B. 1564; D. 1642.) to insist that Copernicus was right, and to follow the second abjuration extorted thro' the fear of torture, by stamping his foot on the earth, while he indignantly muttered "*Yet it moves!*" And did the same imitative power enable him to discover that "*the Air, tho' comparatively light, is positively heavy?*"

Was it thro' *reading* or *experiment* that his countryman and pupil Torricelli (B. 1608; D. ?) deduced from his tutor's lesson the conclusion which led him to invent *the Barometer?*

Did *a book* discover to England's Harvey (B. 1578; D. 1658.) *the Circulation of the Blood?*

Did *any form of words* enable the German Otto von Guericke (B. 1602; D. 1686.) to present the world with the *Air-pump?*

Did he of whom Pope said

> "*Nature and all her works lay hid in night;*
> *God said let Newton be, and there was light,*"

discover *the Laws of Gravitation* and attain his *Theory of Light and Colors* while conning the literary productions of the predecessors and cotemporaries who were represented as covered with darkness?

Was America's Franklin (B. 1706; D. 1790.) *holding a book* when he discovered *the Identity of Lightning and Electricity?* And is it only *thro' letters* that we form an estimate of the value of his discovery, or will *the preservation of human life and valuable property, resulting from the inventions which followed*, and *the Applications of Electricity to the Arts* make his name *im*mortal?

Was the accidentally French, but Scotch descended and educated Joseph Black (B. 1728; D. 1799.) who "lived as fine a life of science as was ever lived, and died with a cup of milk unspilt in his hand," *only a bookworm* when he discovered *the Chemistry of the Gases?*

Did Sir Humphry Davy (B. 1778; D. 1829.) acquire the knowledge that enabled him to invent *the Safety-Lamp* "which has saved the lives of thousands of poor men, and of which the beneficial effects will be felt as long as coal continues to be dug from the earth," *while seated in his study?*

Was it because of *their long acquaintance with the art of printing* that even the tenacious Chinese, became "*Gas consumers and*

employers, if not manufacturers," ages before the streets of London were lighted otherwise than by *dim oil-lights and crystal-glass lamps?*

Did James Watt (B. 1736; D. 1819.) make the most important improvements in *the Steam Engine,* thro' *the unassisted lore of the ancients and that which intervened?*

Did semi-centennial hybernations elapse between *the dwarf telescope of Newton, the large instrument of Hadley, the magnificent telescope of Sir William Herschel, and the colossal instrument of the Earl of Rosse* (Ireland's brilliant exception to the remark that "the aristocracy may be searched in vain for philosophers"), because *all that time* was needed to study *the books of men?*

Did *representative objects* lead to the invention of the *Microscope?*

Did men learn to "*go down to the sea in ships*" thro' *transmitted knowledge?* Do men alone use anchors? Do they alone set up sails? Do no others "feather the oar"?

Was it through *unassisted human instruction* that the New World's Robert Fulton (B. 1765; D. 1788.) was *the first to apply water-wheels to the purpose of steam navigation?*

Did *that education which the French Brunel* (B. 1769; D. 1849.) *so much disliked,* or *the bore of the sea-worm in the keel of a ship,* lead him to *im*mortalize his name by the construction of *the tunnel under the river Thames?*

Did *published Art* teach Britain's George Stephenson (B. 1781; D. 1848.) to originate *the railway* and *urge* "*on his gigantic invention, at a time when great engineers, eminent lawyers and lead-*

ing members of Parliament were not ashamed to denounce him as an idiot, and to advise his consignment to Bedlam"?

Had the constructors of *Canals for joining rivers*, and *Pipes for conveying gas, no specimens of much more ingenious contrivances in their own frames?*

Had those who "*spanned the Mersey* by a Tubular Bridge" *no natural model* combining the saving of materials with lightness and strength?

Was it through *reading* or *observation*, *reflection* and *experiment* that some men became *Navigators of the Air?*

Is man *the only animal that weaves*, and had he *no Vegetable Teachers?* Had *books* or *a sight of the Automaton Chess-player* most to do with Dr. Edmund Cartwright's conception of the practicability of inventing *the Power-loom?*

Was it thro' *theory* that Palissy of France gave to his country her high rank in the "*Ceramic Art*"? and distinguished himself as "a great master of *the power and effect of Neutral Tints*"?

Did Josiah Wedgewood (B. 1730; D. 1795.) ingeniously improve *the English Pottery Manufacture* and invent *the Pyrometer* without knowing much of *the Qualities of Objects?*

Did "*the form of the bole of a tree* and *the manner in which it fixes itself into the ground*, so as to be able to face the storms of a hundred winters" *yield no suggestions* to the celebrated engineer, Smeaton (B. 1724; D. 1792.) in the construction of *the Eddystone Lighthouse?*

Does not the architect of the Crystal Palace confess himself *much the better* of *Vegetable Tuition?*

Does man use *any Mechanical Power* to which *Nature is a Stranger?*

Had the World's Morse *only second hand tuition* when he invented *the Atlantic Telegraph?*

And shall we only read of it, speak of it, and forget it? *God forbid! May we rather remember it as a glorious proof of the* WORKING FAITH *that can remove distance and overcome every obstacle!*